Requirement Specification

Chamo

By **Anonymous Messaging**:

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Version: 3.0
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Version Table:

Version 1	Date: 10/7/23	
Version 2	Date: 3/16/24	
	Modify use case #14	*Page 31*
	Deleted use case #4	*Page 15*
	Added use case #23	*Page 43*
	Added use case #24	*Page 43*
	Modify Use Case #1	*Pages 11-12*
	Modify Use Case #5	*Pages 17-18*
	Modify Use Case #10	*Page 26*
	Deleted Use Case #6	*Page 18-19*
Version 3	Date: 5/9/24	

Summary of Changes:

- Added information is in **green**
- Deleted information is in ~~grey and crossed out~~
- Changed Use Cases are highlighted in **red** (*title*)

Section Changed	Page #
Updated Use Case #1	11
Updated Use Case #3: Profile Customization	14-16
Replaced/Added new Use Case#4: private/public profile visibility	16-19
Replaced, added Use Case #6: Sort topics	20-21
Updated Use Case #9: Edit User Profile and Account	25-27
Updated Use Case #11: Manage Notifications	28-29
Updated Use Case #12: View Help (FAQ, Security)	30-31
Remove Use Case #13: Log Out (integrated with Global Nav bar)	31-32
Replaced Use Case #15: Create Topic for Explore Page	34-35
Updated Use Case #16: Matching Users	36
Updated Use Case #20: Explore Page	42

	Replaced, added Use Case #21: (Chat Buttons)	42-44
	Updated Use Case #22: Global Navigation Bar	45
	Add Use Case #23: Chat Page	45-46
	Added Use Case #24: Sockets	47-48
	Added Use Case #25: Chat Room Public Profiles	48-49
	Updated Functional Requirements	50
	Updated Non-functional requirements	51

Table of Contents

Executive Summary

By: Alex Kem

Chamo is a web application where users can meet and chat. This platform will give users the opportunity to form connections and friendships. The application will feature an explore page where users can find people with similar interests/topics to start 1-in-1 chats with other users. Additionally, they have the option to be randomly matched with another user with no specific interest needed. Users have the option to create topics for other users to join and meet new people. Intrivt.io will allow users to customize their own profile as well.

Apps like WhatsApp and Omegle function similarly to Chamo. Our aim with Chamo is to prioritize the anonymity aspect, which will diminish users' judgment between one another. By doing this, we hope to create a safe and inviting environment where people can easily meet new friends. Unlike Omegle and WhatsApp, we want to create a user system where people are able to develop strong connections with others through a friend system.

The following requirement document will start by introducing models and goals relating to the application's development. These models and goals include topics such as stakeholders, goals, system, and usage. stakeholders for this application. Additionally, the document will present an overview of use cases, functional requirements, and non-functional requirements. Under the stakeholder model, the document will provide details of each stakeholder involved in the app and their relationships with other stakeholders and Chamo. Next, we will provide a model and description of our goals with the app. After, we will be illustrating our system vision. Additionally, a usage model will be provided that outlines more general use cases for each of the stakeholders involved. The aim for these models is to provide descriptive details and relationships between the stakeholders. Moreso, it will create a solid foundation of our web app as it will help us construct a core purpose and a clear vision of the app. Towards the end of the document, the document will present use cases for the application. Lastly, our functional and nonfunctional requirements will be listed to address stakeholders, goals, and use cases.

Ultimately, we aim to create a safe, exclusive community of friendly people. With Chamo., we will provide a chatting platform where users can meet like-minded individuals to form connections. We hope that users, from anywhere in the world, will receive a positive impact from our platform.

Stakeholder Model

Narrative By: Sopheak Chim and Ivy Ly

The Stakeholder Model represents the interconnected relationship between individuals that shows an interest in our project, *Chamo*. Stakeholders are categorized into two different groups: internal stakeholders and external stakeholders.

Internal stakeholders are individuals whose interest in the project comes through a direct relationship, such as the developers, moderation team, and investors. Developers are involved with the creation of the project by meeting certain requirements for user needs. The moderation team regulates activities on the platform and gives feedback to the development team for further improvements. Investors show interest and offer financial support to help the progression of the project.

External stakeholders are those who are indirectly involved with the project but are affected by the actions and outcomes of the project, including end users and competitors. End users will use and experience our web application giving the developers feedback on issues or concerns to improve the existing software. Competitors with similar services are analyzed to help make our product more unique and have better functionality. Figure 1 depicts the relationship between the stakeholders and how each role is interconnected with one another.

Diagram and Table By: Sopheak Chim and Ivy Ly

Figure 1: Stakeholder Model

Figure 1: Stakeholder Model
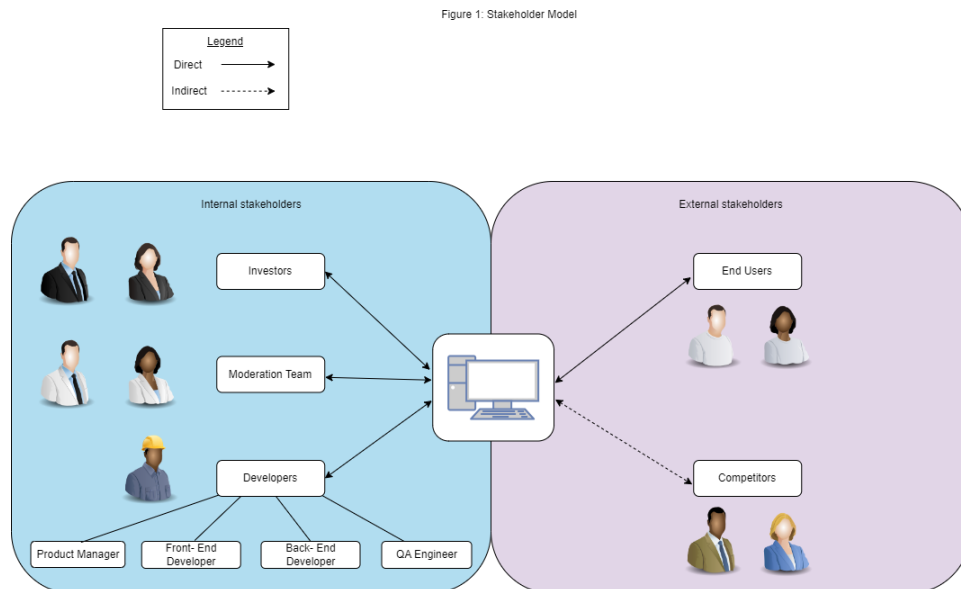
Stakeholder Roles

Developers

Role	Project Manager
Role Description	The project manager understands the needs of the end users and fulfills the vision and requirement while guiding the development team in delivering a product that was envisioned
Expertise	Resource planning, organization, supervision, monitoring and controlling, prioritizing
Responsibilities	Planning, organizing, and directing completion of the project while ensuring task are completed on time and within the budget
Deliverables	A plan and precise schedule for the rest of the development team to follow

Role	Front- End Developer
Role Description	The Front- End Developer creates the component that the user interacts with the product
Expertise	Frontend languages, understanding of web development frameworks, critical thinking, creativity
Responsibilities	Prototyping awareness to user, needs using tools for testing and solving user problems
Deliverables	Mockups of the final product

Role	Back- End Developer
Role Description	The Back- End Developer is an expert who build and maintain the mechanisms that process data and perform actions on the web application
Expertise	Knowledgeable about backend languages, data storage, security, side-server functions, problem- solving
Responsibilities	Creating, maintaining, testing, and debugging backend of web application
Deliverables	A working application with properly commented source code and documentation

Role	Quality Assurance Engineer
Role Description	A quality assurance engineer interacts with the final product after researching user needs
Expertise	Attentiveness to details
Responsibilities	Implementing solutions that increase usability and functionality, assess end user requirements to make sure they are met
Deliverables	Solutions to help the development team write faster and better code

Moderation Team

Role	Moderation Team

Role Description	Team to monitor activities among users on the platform
Expertise	Attentiveness to details
Responsibilities	Reviewing and revising community guidelines.
Deliverables	Ban users who do not adhere to the community guidelines.

Investors

Role	Investor
Role Description	Investors show interest in our product and are willing to offer assistance in creating a starting environment for the project
Responsibilities	Funding for the project
Deliverables	Funds to allow initiation of the project

End Users

Role	Users
Role Description	Individuals interested in meeting new people in a semi-anonymous environment
Responsibilities	Use the application as a platform for messaging
Deliverables	Constructive feedback for the development team when concerning the user side of the project

Competitors

Role	Competitors
Role Description	Products who have similar functionalities and services, such as WhatsApp, Omegle, Facebook Messenger, LINE, and Kakao Talk
Responsibilities	Provide methods for end users to have the best experience messaging with other users
Deliverables	Any methods that could be improved on that can possibly be implemented into our product

Goal Model

Narrative by: Alex Kem, Darren Seng

This section outlines the main objectives and aims of the system, categorized into four areas:

- **Primary Goal:** To "create a safe chat environment for users looking to make friends". This sets the base for the site's core purpose.
- **Usage Goals:** Specific functionalities and user interactions that demonstrate how the primary goal will be realized.
- **System Goals:** System related characteristics to efficiently achieve usage goals. These include the site's static features, efficiency, and information handling.
- **Business Goals:** Broad, strategic goals that motivate the success of the app.

The goal model will serve as a structured roadmap that aligns with our team's objectives for developing the system and helps stakeholders understand the core mission, specific functionalities, and features.

Diagram by: Sopheak, Darren Seng

Figure 2: Goal Model Diagram
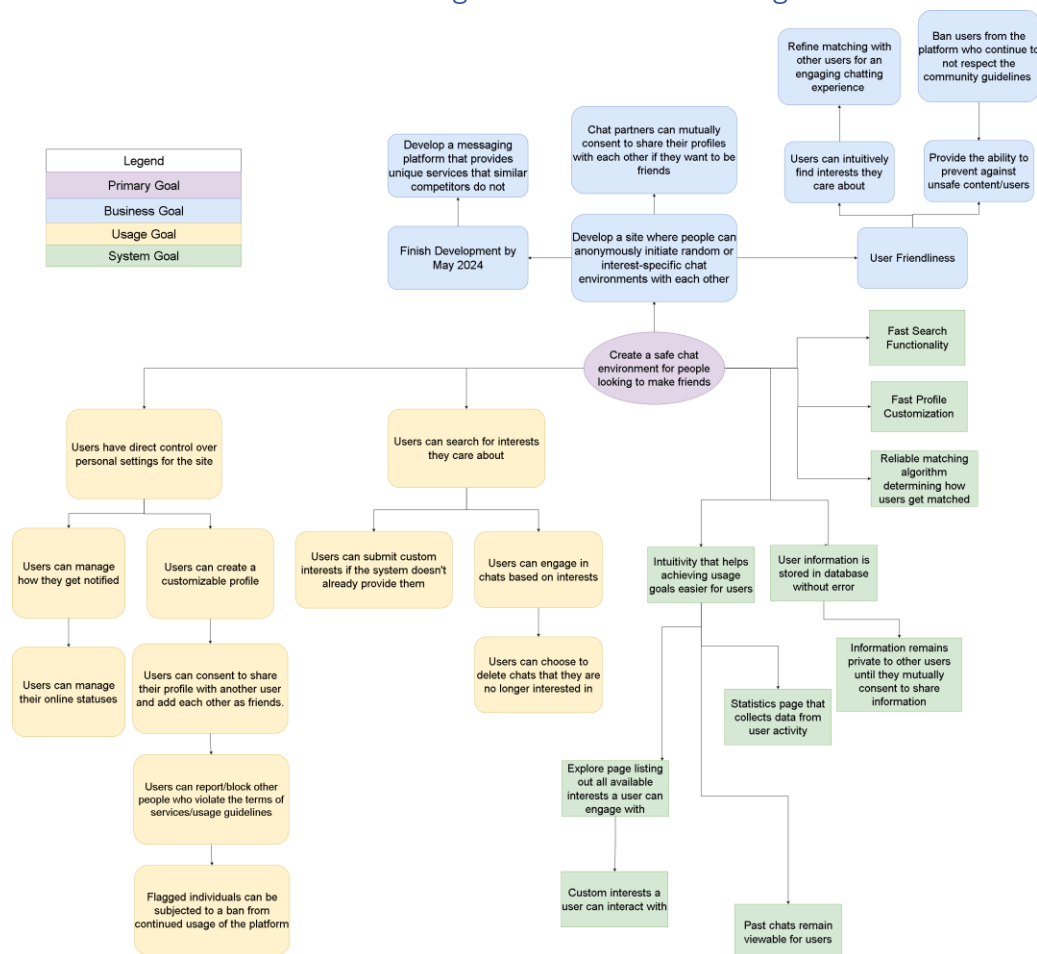
System Vision

Narrative by: Angeline Dequit and Ivy Ly

      The System Vision diagram shows the interactions between the stakeholders and the system. The developers design, develop, and maintain the system including overseeing the website architecture and its databases. Developers will also handle feedback, handling any requests from the moderation team and fixing bugs. The system provides a user interface, allowing users to interact with it. The users can register for an account and start anonymously messaging with another user. Users can match with a user randomly or based on similar personalities or interests. When chatting with another user, a pair of users can decide to mutually reveal each other's identities. All user login information is secured within the system's database, maintained by the developers. The moderation team will monitor users' interactions with the system, ensuring users are abiding by the privacy and policy guidelines to have a safe and friendly environment to communicate with other users. Thus, the moderation team will supply feedback to the development team for further improvements to the system.

Diagram by: Angeline Dequit and Ivy Ly

Figure 3: System Vision Diagram

Figure 3: System Vision Diagram
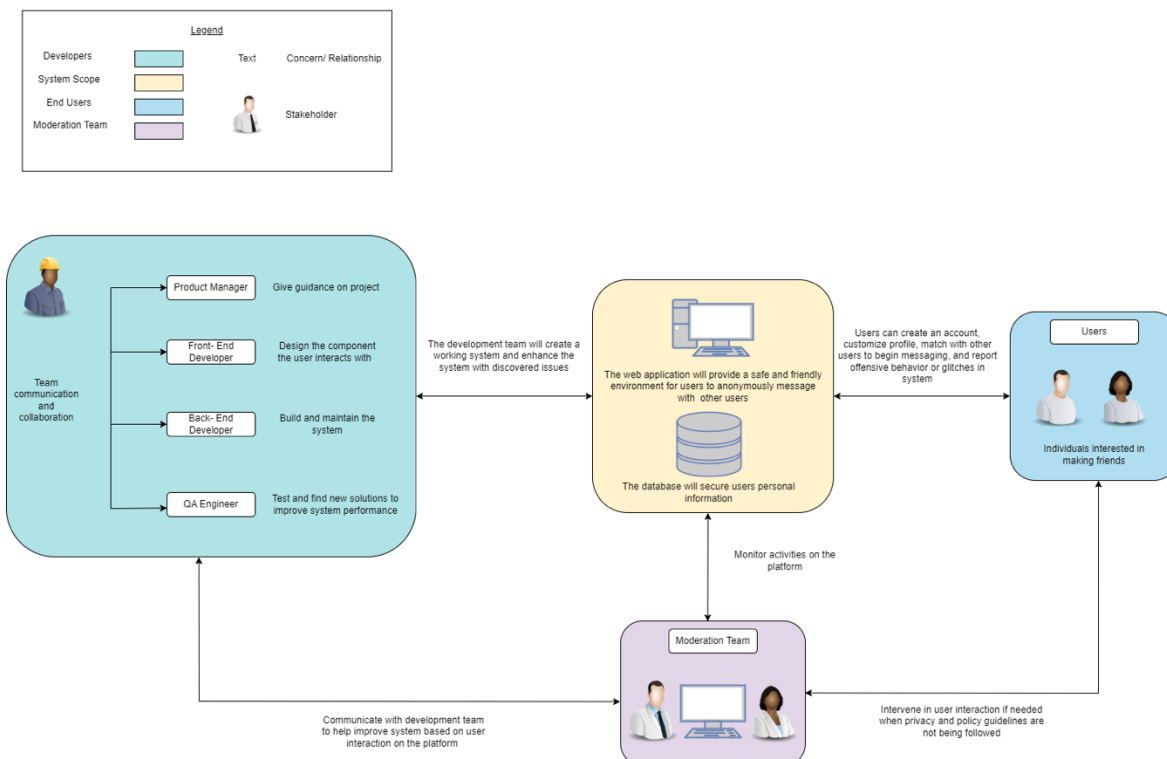
Usage Model

Narrative By: Ivy Ly

The Usage Model displays a visual explanation of the interaction between the end user, system, and developers. Each actor in the Usage Model has various forms of impact on the application, therefore, the Use Case Diagram allows for a visualization of those impacts. Users can register for an account with the system. When anonymously interacting with another user they will be matched based on personality test, interest community the user joins, or randomly paired with no criteria needed to be met prior. Users will have the option to request to show their private ("real"/ "true self") profile with each other if there is mutual agreement, if the user wants to know more about another user and form a deeper connection. User data will be collected to formulate graphical presentations for the user to learn more about themselves. The system will have safety precautions, such as spam and duplication filter, safety filter, and report form for users to have a safe experience when using the application. The developers are responsible for keeping the system in check and to make sure that databases are secure.

Diagram By: Darren Seng

Figure 4: Usage Model Diagram

Figure 4: Usage Model Diagram
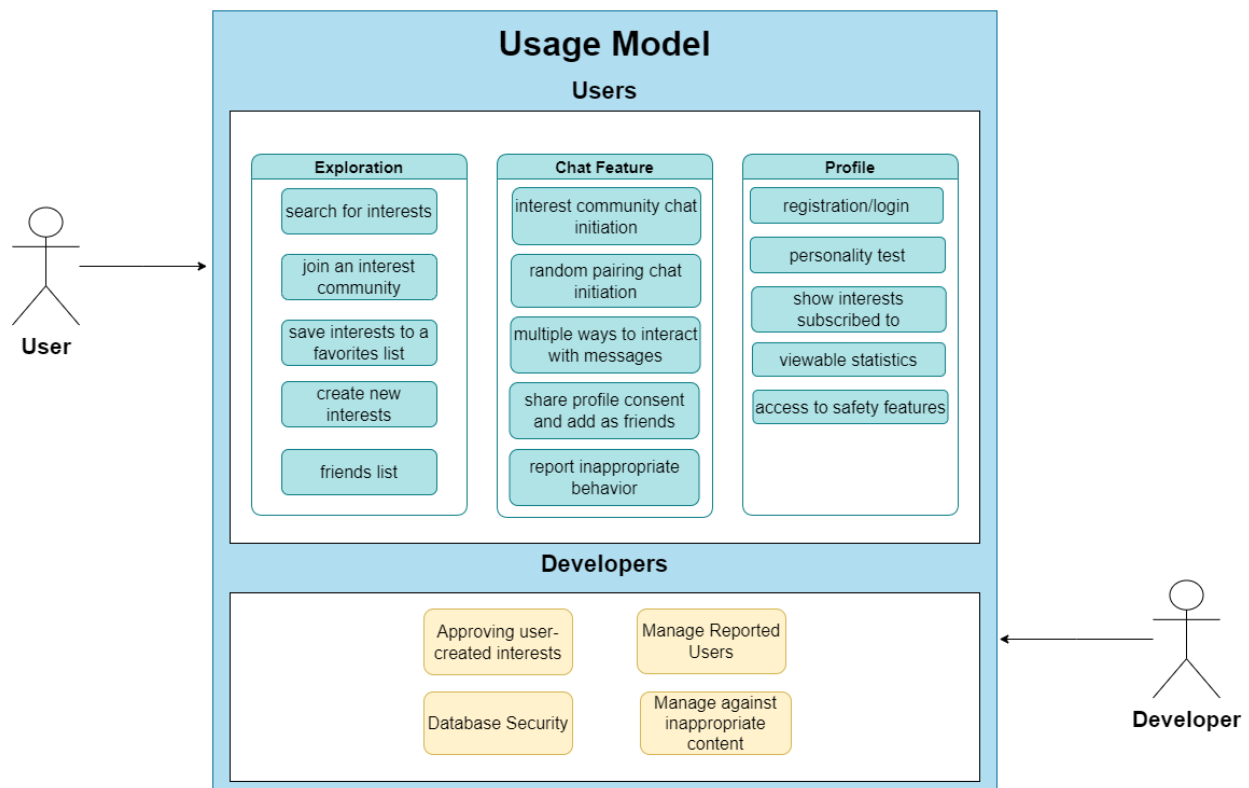
Use Cases
Written By: Sopheak Chim, Angeline Dequit, Alex Kem, Ivy Ly, Darren Seng

Use Case # 1	User Registration
Goal in Context	Create an account
Scope & Level	Registration process within the login/registration interface
Preconditions	User does not have an account.
Success End Condition	User provides all required registration and an account is added to the database.
Failed End Condition	No account is created
Primary, Secondary Actors	New user with no account
Trigger	User clicks the sign-up option
Description	**Step Action**
	1.Registration process starts when "sign up" is selected and is presented with a registration form
	2.User is required to provide information including first name, last name, email, and password
	3.Password is created and securely hashed
	4.User confirms their account through verification link sent to their email
	5. Upon verification, user's account is activated, they can log in to the site
Extensions	**Step Branching Action**
	2a. If email provided is already associated with an existing account, the app prompts the user to choose a different email
	2b. If a user enters incomplete or invalid information, appropriate error messages are shown to help the user correct the issues.

Sub-Variations	Step Branching Action
	1. May include optional, non-essential fields such as user interests or profile customization
Related Information	#2 User Login
Priority	High
Performance	Less than 10-15 mins to make an account, depends on how long it takes for the user to enter information
Frequency	N/A
Channels to actors	Database
Open issues	N/A
Due Date	May 2024
…any other management info.	N/A
Superordinates	N/A
Subordinates	N/A

Use Case # 2	User Login
Goal in Context	Allow a registered user to access their account by providing their username/email and password
Scope & Level	A process within the login interface
Preconditions	User has an account
Success End Condition	User provides login credentials, the system verifies them, and the user is redirected to the site's main page
Failed End Condition	User provides invalid credentials, access to the account is denied and an error message is shown

Primary, Secondary Actors	Registered user
Trigger	User clicks the login option within the site
Description	**Step Action**
	1.User enters their registered email/username into the login page
	2.System verifies the inputted credentials against what's stored in the database
	3.If the credentials are valid, user gets access to their account and is directed to the site's main interface
	4.If credentials are invalid, an error message is shown, the user may need to retry
Extensions	**Step Branching Action**
	1a. If user forgets password/username, they can do a recovery process, "Forgot Password/Username" option
Sub-Variations	**Step Branching Action**
	1. Two Factor Authentication
	2. Remember me option to let the user stay logged in across sessions so they don't need to enter credentials every time
Related Information	#1 User Registration
Priority	High
Performance	Less than 1 minute
Frequency	Daily
Channels to actors	Database
Open issues	What if the user cannot login despite being registered?

Due Date	May 2024
…any other management info.	N/A
Superordinates	#1 User Registration
Subordinates	#3 Profile Customization

Use Case # 3	Profile Customization
Goal in Context	After registration, the user should be able to add personal touches to their profile
Scope & Level	Profile customization options available to user
Preconditions	User has a registered account and is logged in
Success End Condition	User successfully makes one or more customizations to their profile
Failed End Condition	• User cancels profile customization without changing anything. • Technical issue stops the user from saving their changes
Primary, Secondary Actors	Registered user
Trigger	• User's profile picture is shown on the **profile menu** ~~main interface~~ • User can click on "Profile Menu" in settings ~~their profile picture~~, revealing an option for "Profile Customization"
Description	Step Action
	1.After clicking Profile **Menu** ~~Customization~~, they are taken to an interface that has options for uploading a profile picture, ~~selecting a status (Online, Away),~~ and writing a bio **description, adding a personality type, country, and topics that they're interested in.**
	2.Users can upload a picture from their device's gallery

	~~3.Users can provide a bio or description that appears on their profile that others can see~~
Extensions	**Step Branching Action**
	1a. If the user tries to upload an unsupported image format, the user is shown an error message.
	1b. Users can change their profile picture at any time, replacing the previous image.
	1c. If a user cancels customization, ~~they are redirected to their last page they were at before Profile Customization.~~ changes are not saved
Sub-Variations	**Step Branching Action**
N/A	
Related Information	N/A
Priority	High
Performance	Less than 1 min for changes to take effect
Frequency	Daily
Channels to actors	Database
Open issues	What if profile changes do not get saved?
Due Date	May 2024
…any other management info.	N/A
Superordinates	#1 User Registration #2 User Login
Subordinates	N/A

Use Case # 4	~~Personality Test~~ Public/Private Profile Visibility
Goal in Context	Let users take a personality test (e.g., MBTI) so they can be better accurately matched with chat partners.
Scope & Level	Integrated into the chat matching process.
Preconditions	User has a registered account and is logged in.
Success End Condition	• User completes the test. • The results are recorded and stored for matching.
Failed End Condition	• User cancels the test before completing it • An issue stops the user from submitting their test
Primary, Secondary Actors	Registered user
Trigger	• On the site's main interface, the user selects the "Take Personality Test" option
Description	Step Action
	1.User starts the test, answering a less than 10 minute survey to assess their personality.
	2.The test results (MBTI) are stored in the user's profile data.
	3.Users can retake the test anytime, with the latest results overwriting the previous ones
Extensions	Step Branching Action
	1a. If the user cancels the test before completion or a technical issue occurs, they can resume it from where they left off
Sub-Variations	Step Branching Action
	1. Users can have the option to skip certain sections/questions.
Related Information	# Matching User
Priority	High
Performance	Less than 10 mins to complete the test

Frequency	Daily
Channels to actor	Interactive, Database
Open issues	What if the personality test does not accurately assess a user's personality?
...any other Management info.	N/A
Superordinates	N/A
Subordinates	N/A

Use Case #4	Private/public profile visibility
Goal in Context	Manage private and public profile interactions between users
Scope & Level	Primary Task
Preconditions	Users must be logged in order to have profile information.
Success End Condition	Users can only see each other anonymously when they're not friends. Users can see each others' private profiles if they are friends.
Failed End Condition	Users are unable to see private profile information of each other even if they're friends. Users are able to see private profile information if they are not friends,
Primary, Secondary Actors	Primary actor: User Secondary actor: System
Trigger	Users click requests/accepts private profile exchange.
Description	Action
	1. Users is logged in and initiated a chat with a random user. 2. Users clicks on private profile sharing button. 3. Other user can accept the request and is able to see private profile information

Extensions	Branching Action
	1. User can reject the other user's request and both profiles remain anonymous to each other.
Sub-variations	Branching Action
	N/A
Related Information	Explore Page, Chat Page
Priority	High
Performance	Med
Frequency	High
Channels to actors	Interactive
Open issues	N/A
Due Date	N/A
…any other management info.	N/A
Superordinates	Use Case #23: Chat Page

Use Case # 5	View Privacy and Policy Guidelines
Goal in Context	Inform users of the application's privacy and policy guidelines, and how user data is being handle
Scope & Level	Primary Task
Preconditions	User is in the process of creating an account.
Success End Condition	The user accepts privacy and policy guidelines, leading to a successful account creation
Failed End Condition	The user fails to accept privacy and policy guidelines, preventing a successful account creation
Primary, Secondary Actors	Primary actor: User Secondary actor: System
Trigger	User clicks checkbox to accept guidelines

Description	Step Action
	1.User views sign-up page
	2. User views Privacy Policy link
Extensions	Step Branching Action
Sub-variations	Step Branching Action
	1. User can navigate to settings to access the link to view privacy and policy guidelines
Related Information	# 1 User Registration # 12 View Help (FAQ, Security)
Priority	High
Performance	1-3 seconds
Frequency	Daily
Channels to actors	Interactive
Open issues	What if the user disagrees with privacy and policy guidelines?
Due Date	May 2024
…any other management info.	N/A
Superordinates	#1 User Registration
Subordinates	#2 User Login

Use Case # 6	Sort Topics Filter Spam and Duplication
Goal in Context	Sort the listed topics on the Explore page in alphabetical order, ascending or descending
Scope & Level	Secondary Task

Preconditions	1. **User must be logged in to view (the explore page)**
Success End Condition	**Topics are sorted in alphabetical or reverse alphabetical order**
Failed End Condition	**Unable to sort list of topics in alphabetical or reverse or topics are not sorted correctly.**
Primary, Secondary Actors	**Primary actor: User** **Secondary actor: System**
Trigger	**User clicks the "Sort" button on the explore page**
Description	**Step Action**
	1.User views the Explore page, which contains the list of topics
	2.User clicks the "Sort" button above Topics component to view the topics in alphabetical order
	3.User clicks the "Sort" button again to view in reverse alphabetical order
Extensions	**Step Branching Action**
	N/A
Sub-variations	**Step Branching Action**
	N/A
Related Information	**# 20 Explore Page**
Priority	**Low**

Performance	Immediate
Frequency	~~Daily~~ **Medium Frequency**
Channels to actors	Interactive, Database
Open issues	**What if we'd like to add different sorting and filtering methods for topics in the future?**
Due Date	May 2024
…any other management info.	N/A
Superordinates	# 1 User Registration # 20 Explore Page
Subordinates	N/A

Use Case # 7	Safety Filter
Goal in Context	Filter inappropriate or offensive language
Scope & Level	Primary Task
Preconditions	An existing entity containing inappropriate or offensive language
Success End Condition	Flag entity with inappropriate or offensive language
Failed End Condition	Unable to flag entity with inappropriate or offensive language
Primary, Secondary Actors	Primary actor: User Secondary actor: System
Trigger	Inappropriate or offensive language is used
Description	**Step Action**
	1.Inappropriate or offensive language is used
	2.User will be notified about it

	3.User can proceed with using the application
Extensions	**Step Branching Action**
	1a. Inappropriate or offensive language in account creation
	1b. Interest community contain inappropriate or offensive language
	1c. User repeatedly uses inappropriate or offensive language while messaging
	1d. User encounters repeated use of inappropriate or offensive language while messaging
	2a. User will be prompted to change entry in profile creation
	2b. User will be prompted to change entry for interest community creation
	2c. User will receive warning about repeated used of inappropriate or offensive language
	2d. User can report inappropriate or offensive behavior
	3a. User will be flagged for inappropriate or offensive behavior; if user is a repeated offender, a label will be associated with user profile to notify other users
	3b. User will be banned from the platform if inappropriate or offensive behavior is too excessive
Sub-variations	**Step Branching Action**
	1. User can report about inappropriate or offensive behavior
Related Information	# 1 User Registration # 14 One-on-One Messaging # 21 Create a Topic for the Explore Page # 6 Filter Spam and Duplication
Priority	High

Performance	Immediate
Frequency	Daily
Channels to actors	Interactive, Database
Open issues	What if the system fails to detect inappropriate or offensive language?
Due Date	May 2024
…any other management info.	N/A
Superordinates	# 1 User Registration # 14 One-on-One Messaging # 21 Create a Topic for the Explore Page # 6 Filter Spam and Duplication
Subordinates	N/A

Use Case # 8	Report Form Submission
Goal in Context	Allow user to report issues
Scope & Level	Primary Function
Preconditions	An issue exist on the platform
Success End Condition	User is able to submit a form regarding about an issue
Failed End Condition	Unable to submit form regarding about an issue
Primary, Secondary Actors	Primary actor: User Secondary actor: System
Trigger	An issue affecting user's experience with application
Description	Step Action
	1.Issue affecting user's experience

	2.User clicks report button
	3.User will be directed to report page to submit a form
	4.User will be directed to report page to submit a form
Extensions	**Step Branching Action**
	1a. User encounters inappropriate or offensive behavior from another user
	1b. User encounters a glitch preventing a user- friendly experience with the application
Sub-variations	**Step Branching Action**
	1. Spam filter detects spam or duplication in the system
	2. Safety filter detects inappropriate or offensive behavior
Related Information	# 6 Filter Spam and Duplication # 7 Safety Filter
Priority	High
Performance	5-10 minutes
Frequency	Daily
Channels to actors	Interactive, Database
Open issues	1. What if a user doesn't report inappropriate or offensive behavior of another user? 2. What if a user doesn't report about the glitch?
Due Date	May 2024
…any other management info.	N/A
Superordinates	N/A
Subordinates	N/A

Use Case # 9	Edit User Profile and Account
Goal in Context	• Update profile information: <u>Anonymous profile:</u> display name, bio (optional), profile picture (optional), **age, country, personality type (MBTI), and topics of interest** ~~Private profile [OPTIONAL]: real name, age, city (optional)~~ ~~• Update account details: email, phone number, password;~~ ~~• View user statistics, visualized~~
Scope & Level	Primary
Preconditions	1. User has an existing account 2. User is logged in
Success End Condition	The user updates profile information, account details **successfully. Changes are reflected in their profile menu.** ~~and user views own statistics successfully~~
Failed End Condition	The user does not update profile info~~, account details~~ successfully. **Changes are not reflected in profile menu** ~~user does not view own statistics successfully~~
Primary, Secondary Actors	Primary actor: User Secondary actor: System
Trigger	User clicks profile **menu** button in **settings**
Description	**Step Action**
	1.User clicks Profile **Menu** button in **Settings**
	2.User ~~clicks edit profile button~~ **changes a field**
	~~3.User clicks manage account button~~ **3. User clicks save**
	~~4.User clicks view user stats button~~ **4. Changes are reflected in fields in profile menu**
Extensions	**Step Branching Action**

	2a. Website directs user to editable profile page: anonymous 2a.i User clicks on element they'd like to edit 2a.ii. User edits profile picture 2a.iii. User clicks save button ~~2b. User can toggle Private profile on/off~~ 2b.i. User can click on element they'd like to add/edit (real name, age, ~~city~~ country) 2b.ii User clicks save button
	~~3a. Website directs user to editable account details page~~ ~~3b. User clicks on element they'd like to edit: change password, change email, change number~~ ~~3c. User clicks save button~~
	~~4a. User clicks 'view user stats' button~~ ~~4b. System displays page where stats are visualized, including time spent on app, average time it takes to reveal identities, etc.~~
Sub-variations	**Step Branching Action**
	2a. User presses back button without pressing save: changes are not made 2b. Due to high throughput of system, system fails to save 2c. User presses save: • System saves new display name, new bio to database • ~~If add or edit profile picture: system replaces current profile picture with new profile picture~~ • ~~If delete profile picture: System removes profile picture from system~~ ~~2d. If the user's private profile is not toggled on, no options to edit the private profile are shown. If toggled on, user can view and access page to enter private profile information~~
	3a. User clicks change password 3b. User is asked to type in existing password 3c. Existing password is verified to be correct 3d. User is asked to type in new password 3e. User presses confirm new password ~~3f. User clicks change email~~ ~~3g. User is asked to type in existing password~~ ~~3h. Existing password is verified to be correct~~ ~~3i. User is asked to type in new email~~

	4a. User can view time spent on app 4b. User can view average time taken to for mutual identities to be revealed 4c. User can view types of most interacted with (ratio: male % vs female % vs other; list: top interests)
Related Information	N/A
Priority	High
Performance	< 1 second
Frequency	Daily
Channels to actors	Immediate
Open issues	Will there be a character limit for bio? Character limit for display name? Picture size (mb and/or dimensions) limit for profile picture? How will we verify legit emails? How will we authenticate users-- email, number, or both?
Due Date	May 2024
…any other management info.	N/A

Use Case # 10	Change theme mode (light/dark)
Goal in Context	Change the color display of website from light to dark
Scope & Level	Subfunction
Preconditions	User has an existing account
Success End Condition	The user changes the color display theme successfully
Failed End Condition	The user does not change the color display theme successfully
Primary, Secondary Actors	Primary actor: User Secondary actor: System
Trigger	User slides display theme button

Description	Step Action
	1.User changes system theme
	2.System changes display color theme from light to dark or vice versa
Extensions	**Step Branching Action**
	N/A
Sub-variations	**Step Branching Action**
	N/A
Related Information	N/A
Priority	Medium
Performance	< 1 second
Frequency	Daily
Channels to actors	Interactive, Database
Open issues	How should we go about inversing colors-- third party function/reference?
Due Date	May 2024
…any other management info.	N/A

Use Case # 11	Manage Notifications
Goal in Context	User can turn on/off notifications, can customize type of notifications they'd like to receive, and clear/delete notifications
Scope & Level	Primary

Preconditions	User has an existing account
Success End Condition	The user manages notifications successfully
Failed End Condition	The user does not manage notifications successfully
Primary, Secondary Actors	Primary actor: User Secondary actor: System
Trigger	User clicks Notifications icon
Description	**Step Action**
	1.User clicks Notifications icon in global navigation bar
	2.User can click Clear All button to remove all notifications
	3.User can swipe right on a notification to remove it
	4.User can tap notification to view notification page
	5.User can tap gear icon to manage notification settings
Extensions	**Step Branching Action**
	4a. New Message Request → Brought to chatting page 4b. New Group Message Request → Brought to chatting page 4c. New messages from ___ → Brought to chat with user or group 4d. System updates → Brought to page with update description 4e. Interest approved → Brought to interest page
	5a. User can turn/off all notifications 5b. User can turn on select notifications: new message requests, new group message requests, new messages , system updates
Sub-variations	**Step Branching Action**

	N/A
Related Information	N/A
Priority	High
Performance	< 1 second
Frequency	Daily
Channels to actors	Interactive, Database
Open issues	Can we group notifications for multiple messages from an individual?
Due Date	May 2024
…any other management info.	N/A

Use Case # 12	View Help (FAQ, Security)
Goal in Context	User can submit help requests, an FAQ page, and a list of blocked users
Scope & Level	subfunction
Preconditions	User has an existing account
Success End Condition	The user can view or submit help requests, an FAQ page, and a list of blocked users successfully
Failed End Condition	The user cannot view or submit help requests, an FAQ page, and a list of blocked users successfully
Primary, Secondary Actors	Primary actor: User Secondary actor: System
Trigger	User clicks Help Button
Description	**Step Action**

	1.User clicks Help button

	2.User can click buttons to view following pages:
	    a. Help Requests,
	    b. FAQ,
	    c. Blocked Users
	    d. Privacy

Extensions	**Step Branching Action**
	2a.i. User Clicks Help Requests: 2a.ii. User can view Help Request submitted, description, and status (pending, completed) 2b.i User Clicks FAQ: 2b.ii User views FAQ page 2c.i User clicks Blocked Users 2c.ii User views list of Users blocked, with links to user profiles 2c.iii User can add a new blocked user by clicking on 'Add User', typing in username, and pressing submit
Sub-variations	**Step Branching Action**
	2c.i. User does not have any blocked users → Page displays "No blocked users yet" 2c.ii User adds a blocked user but goes back before pressing save → Username not blocked
Related Information	N/A
Priority	Medium
Performance	< 1 second
Frequency	Daily
Channels to actors	Interactive, Database
Open issues	How will we manage Help Requests
Due Date	May 2024
…any other management info.	N/A

Use Case # 13	Log out
Goal in Context	User can log out of account
Scope & Level	Function
Preconditions	User has an existing account and is logged in
Success End Condition	The user is logged out and only sees Home/Login page when viewing website
Failed End Condition	The user is still logged and still views icon
Primary, Secondary Actors	Primary actor: User Secondary actor: System
Trigger	User clicks Log Out button
Description	Step Action
	1.User clicks logout button
	2.User is brought to login page
Extensions	Step Branching Action
	1a. User clicks logout button 1b. User prompted to confirm logout (e.g "Are you sure?")
Sub-variations	Step Branching Action
	1a. User clicks 'No' when prompted to confirm logout → User is not logged out
Related Information	N/A
Priority	Medium
Performance	< 1 second
Frequency	Daily
Channels to actors	Interactive, Database

Open issues	N/A
Due Date	May 2024
...any other management info.	N/A

Use Case # 14	One-on-One Messaging
Goal in Context	To communicate and chat with other users
Scope & Level	Primary Task
Preconditions	The user receives a match with another user.
Success End Condition	One user is able to send and receive messages to another user.
Failed End Condition	Unable to send and receive messages to other users.
Primary, Secondary Actors	Primary: User Secondary: Recipient
Trigger	The user matches with another user with the same interest or an already existing chat with an already matched user exists.
Description	Step Action
	1.Chat page appears for user or recipient to start composing.
	2.User sends message/ Recipient sends message
	3.User receives message / Recipient receive message
	4.User view messages
Extensions	Step Branching Action

	1a. User is able to send a message
	    1a1. User can edit the message
	    1a2. User can delete a message
	    1a3. User can reply to a message

	1a4. User can send links, pictures, stickers, and emojis in a message 1a5. User can set their profile to "true identity" in the case they want their profile to be public with the person they're chatting with 2. Create Sockets for users to communicate to each other 3. Define properties in the user schema.

	2a. User unable to send message
	  2a1. User sends inappropriate message that goes against the filter
	    2a2. Users' account is blocked

	3a. User unable to receive messages
	  3a1. Recipient have closed the chat with user
	  3a2. Recipient blocked the user

	4a. User is able to scroll up and down to view history of the chat
Sub-variations	**Branching Action**
N/A	
Related Information	Create New Chat
Priority	High, main feature of the application
Performance	Realtime to allow for an interactive chatting experience
Frequency	All the time, multiple times per-day.
Channels to actors	Interactive
Open issues	What encryption will be used for the one-on-one messaging?
Due Date	February 2024
…any other management info.	N/A
Superordinates	# 16 Matching Users
Subordinates	N/A

Use Case # 15	Create ~~new chat~~ Topic for Explore Page
Goal in Context	To create a new topic on the explore page
Scope & Level	Primary Task, Sub Function of the explore page
Preconditions	1. User have a registered account 2. User is logged in
Success End Condition	New topic chicklet is created and displayed on the explore page
Failed End Condition	Unable to create and display topic on explore page
Primary, Secondary Actors	Primary: User Secondary: Database
Trigger	User clicks on "Create Topic" button on Explore page
Description	Step Action
	1. Create topic form is displayed on Explore page
	2. User enters a name, adds an image, and adds a description. User clicks "Submit"
	3. Form data is sent to database.
	4. New topic chicklet is added and displayed in Explore page
Extensions	Step Branching Action
	3a. Unable to create new topic.
Sub-variations	N/A
N/A	N/A

Related Information	# 20 Explore Page
Priority	High
Performance	Immediate
Frequency	Medium Frequency
Channels to actors	Interactive
Open issues	What happens if the user is unable create a new topic?
Due Date	~~February~~ May 2024
…any other management info.	N/A
Superordinates	N/A
Subordinates	N/A

Use Case # 16	Matching Users
Goal in Context	Pair users together to communicate
Scope & Level	Primary Task
Preconditions	Users exist in the system
Success End Condition	User is able to pair up with another user
Failed End Condition	User is unable to pair up with another user
Primary, Secondary Actors	Primary actor: User Secondary actor: System
Trigger	User clicks matching button
Description	Step Action
	1.User clicks ~~matching button~~ Join topic
	2.The backend runs a query to look for a recipient to match with the user

	3.User will be paired up with another user to message with
	4.Opens a brand new empty chat window for the user and recipient
	5.Prompt bar for the user and recipient to start their chat
Extensions	**Step Branching Action**
	3a. User will potentially be matched with another user based on personality test
	3b. User will be randomly matched to another user with no certain requirement needed to be met
Sub-variations	**Step Branching Action**
	2. Upon joining a interest community, will be matched with another user within the same community
Related Information	# One-on-One Messaging # Interest Community
Priority	High
Performance	Immediate
Frequency	Daily
Channels to actors	Interactive, Database
Open issues	1.What if the user keeps getting matched to the same user? 2.What if the user is unable to match with another user to chat?
Due Date	May 2024
…any other management info.	N/A
Superordinates	N/A
Subordinates	# One-on-One Messaging # Interest Community

Use Case # 17	Chat sidebar
Goal in Context	To view other current and other chats.
Scope & Level	Summary
Preconditions	User must have at least one chats that exists with another users
Success End Condition	A viewable list of chats that users click to go into different chats that they have matched with.
Failed End Condition	Unable to view older / pre-existing chats
Primary, Secondary Actors	Primary: User Secondary: Viewable list of chats
Trigger	User opens the webapp .
Description	**Step Action**
	1.On the leftside of the screen, displays a scrollable list on the side with chats
	2.The list is of chat is sorted by most recent chat on top
	3.User scrolls up and down the list to select their chat
Extensions	**Step Branching Action**
	1a. User is able to choose to hide / show the sidebar 2a. User can sort the chat by ones that they have not opened yet 3a. User is unable to press on a chat once its deleted
Sub-variations	
N/A	
Related Information	N/A

Priority	High, users must be able to browse through their active chats and non active chat.
Performance	Immediate
Frequency	Multiple times per day.
Channels to actors	Interactive
Open issues	What if another user deletes their chat with you, will you still have the chat history?
Due Date	February 2024
…any other management info.	N/A
Superordinates	N/A
Subordinates	N/A

Use Case # 18	**Search Chat**
Goal in Context	To find specific text that contains the keyword that was searched
Scope & Level	Primary Task
Preconditions	Must have chat history with another user
Success End Condition	Search is able to yield a list/history of texts that contains the keyword/phrase that was used to search.
Failed End Condition	Unable to retrieve the said keyword in the chat history.
Primary, Secondary Actors	Primary: User Secondary: Retrieved History
Trigger	User types keyword into the search bar
Description	**Step Action**
	1.The user clicks on the search bar

	2.User enter the keyword they're looking for
	3.App queries for the keyword
	4.List is returned showing chats that matches the keyword
	5.User presses on each chat in the list that shows the keyword
	6.App brings user to that specific chat that contains the keyword once the user presses on it
Extensions	**Step Branching Action**
	3a. Keyword doesn't exist shows not found
Sub-variations	N/A
Related Information	# One-on-One Messaging
Priority	High, users must be able to look up keywords/phrases they've said in conversation through their chat.
Performance	Immediate
Frequency	Multiple times per day.
Channels to actors	Database
Open issues	How long should message history be kept for?
Due Date	February 2024
…any other management info.	N/A
Superordinates	# One-on-One Messaging
Subordinates	N/A

Use Case #19	Search Bar

Goal in Context	Users can search for users and topics
Scope & Level	Sub Function of the explore page
Preconditions	Users must be logged in order to access the explore page.
Success End Condition	User and/or topic is found in the explore
Failed End Condition	User or topic is not found.
Primary, Secondary Actors	Primary actor: User Secondary actor: System
Trigger	User clicks on the search bar and types in it.
Description	**Action**
	1.The search bar will be located near the top of the web app.
	2.As the user types in the search bar, it will try to recommend to the user what they wanted to look up.
	3.In the recommendation dropdown, there will be a section for topics and users.
	4.Users can hit enter to search up whatever input is on the search bar.
	5.Users can click on the user or topic to bring up the page.
Extensions	**Branching Action**
	1a. User types and enters an input that doesn't exist.
	1b. App will direct the user to a page that will say that the user or topic does not exist.
Sub-variations	**Branching Action**
	N/A
Related Information	Explore Page
Priority	High
Performance	1-5 seconds to search and recommend users/topics

Frequency	High
Channels to actors	Interactive, database
Open issues	What if the system is not able to search users/topics correctly? What if the system is unable to read from the databases?
Due Date	N/A
…any other management info.	N/A
Superordinates	Use Case #20: Explore Page
Subordinates	N/A

Use Case #20	Explore Page
Goal in Context	A page where users can browse various topics. Then, users can match with a user based on the topic they selected. Users can create topics.
Scope & Level	Primary Task
Preconditions	Users must be logged in order to access the explore page.
Success End Condition	Users are able to browse topics and match with someone. Additionally, they can use the search bar function.
Failed End Condition	1. Users are unable to access topics. 2. Topics can't be accessed 3. Search bar isn't functional
Primary, Secondary Actors	Primary actor: User Secondary actor: System
Trigger	Users log in to access the explore page
Description	Action
	1. User will have to log in or sign up 2. Users will type in their username and password to log in

	3. Users will have to go through the account creation.
Extensions	**Branching Action**
	1. After users click on a topic, users will pair up with another one for chatting 2. Users will try to redirect back to the explore page if either side disconnects.
Sub-variations	**Branching Action**
	N/A
Related Information	**# 4 Sort Topics**
Priority	High
Performance	High
Frequency	High
Channels to actors	Interactive, database
Open issues	What if the system is not able to display topics? What if the explore page is unable to be sent back to the user?
Due Date	**May 2024**
…any other management info.	N/A
Superordinates	N/A
Subordinates	N/A

Use Case #21	~~Create a topic for the explore page~~ Chat buttons
Goal in Context	**In a chatroom, user can close chat, block other user, report other user, and add other user as a friend**
Scope & Level	~~Sub Function of the explore page~~ **Sub function of the one-on-one messaging**
Preconditions	1. Users must be logged in to access the explore page. 2. **User must have at least one existing chatroom** 3. **User is viewing a chatroom**

Success End Condition	~~User has successfully created a topic~~ **User successfully completes any of the following actions:**
	  1. **When "Close Chat" pressed, close out of chat**
	  2. **When "Block User" pressed, other user is blocked**
	  3. **When "Report User" pressed, form to submit a report is displayed and added to database when submitted**
	  4. **When "Add User" pressed, user is added to friends list if request is accepted.**

Failed End Condition	User is unable to ~~create a topic~~ **to close chat, block user, report user, add user**
Primary, Secondary Actors	Primary actor: User Secondary actor: System
Trigger	~~User clicks on the "Add Topic" button and fills out the information for that topic.~~ **User clicks on drop down button and chat buttons are displayed**
Description	**Action**
	1. ~~Users must be logged in to access the explore page.~~ 2. ~~Users can click on the "Add Topic" Button to create a new topic.~~ 3. ~~Users will have to fill in information about the topic (ex. Titles, description, picture, etc)~~ 4. ~~Users will click on the "Post Topic" to submit it to the explore page.~~ 1. **Chat buttons are displayed** 2. **When "Close Chat" pressed, close out of chat** 3. **When "Block User" pressed, other user is blocked** 4. **When "Report User" pressed, form to submit a report is displayed and added to database when submitted** 5. **When "Add User" pressed, user is added to friends list if request is accepted.**
Extensions	**Branching Action**
	3A. If user is not blocked, "Block" is displayed. **3B. If user is blocked, "Unblock" is displayed. When blocked, users are able to messsage each other. Once unblocked, users are able to chat.**

Sub-variations	Branching Action
	N/A
Related Information	~~Explore Page~~ **#14 One-on-one messaging** **# 23 Chat Page** **#25 Chat room public profiles**
Priority	High
Performance	High
Frequency	High
Channels to actors	Interactive, database
Open issues	~~How would we handle multiple topic creations at once?~~ ~~What happens when a user creates the same topic as another user~~ **What if we want to add other chat functionalities in the future?**
Due Date	N/A
…any other management info.	N/A
Superordinates	Use Case #20: Explore Page
Subordinates	N/A

Use Case #22	Global Navigation Bar
Goal in Context	Users can navigate the app easily.
Scope & Level	Primary Task
Preconditions	Users must be logged in order to access the header section.
Success End Condition	Users can navigate through the home page, explore page, and the settings page.
Failed End Condition	Users are unable to change pages.

Primary, Secondary Actors	Primary actor: User Secondary actor: System
Trigger	Users click on the icons to select what page they want to go.
Description	**Action**
	1. Users must be logged in to access the header page. 2. Users can click on the icon to go to different pages. 3. Users will see a highlighted icon, notifying them what page they are on. **4. User can click on log out button to log out of use session**
Extensions	**Branching Action**
	1. Users clicks on a icon and it leads to one of the pages from the app (Explore page, Settings, Chat, etc)
Sub-variations	**Branching Action**
	N/A
Related Information	Explore Page, Chat Page, and Settings Page
Priority	High
Performance	Med
Frequency	High
Channels to actors	Interactive
Open issues	What if the page is missing? (404 error)
Due Date	N/A
…any other management info.	N/A
Superordinates	Use Case #20: Explore Page
Subordinates	N/A

Use Case #23	Chat Page
Goal in Context	User is able to chat with all the chat functionalities

Scope & Level	Primary Task
Preconditions	Users must be logged in and have an existing chat to access the chat page.
Success End Condition	Users can see, send, and receive messages, modify and interact with users.
Failed End Condition	Users aren't able to chat with other users.
Primary, Secondary Actors	Primary actor: User Secondary actor: System
Trigger	User opens a chat or matches with another user to initiate chat.
Description	Action
	1. Users must be logged and opens the chat page 2. Users must have existing chat or plans to match with a new chatter. 3. User Engages in one on one chatting via using the chat page.
Extensions	Branching Action
	2. User clicks on the sidebar to access other users displaying tehir chat page with other users.
Sub-variations	Branching Action
	N/A
Related Information	Explore page, Chat sidebar, Chat buttons
Priority	High
Performance	High
Frequency	High
Channels to actors	Interactive
Open issues	What if the messaging data is missing? (404 error)
Due Date	N/A

…any other management info.	N/A
Superordinates	Use Case #14: One on One Messaging

Use Case #24	Sockets
Goal in Context	Create Sockets between users
Scope & Level	Secondary Task, subfunction of one-on-one messaging
Preconditions	Users must be logged in
Success End Condition	Socket for chatroom is successfully created between users
Failed End Condition	Socket for chatroom is not able to be created between users
Primary, Secondary Actors	Primary actor: User Secondary actor: System
Trigger	Users clicks "join" on a topic on the explore page
Description	Action
	1. When another person in the waiting room, user is matching with another user 2. Socket for chatroom is established between user 3. Chat session added to the database 4. User is redirected to the Chat page
Extensions	Branching Action
	N/A
Sub-variations	Branching Action
	N/A
Related Information	# 20 Explore Page # 14 One-on-one messaging # 23 Chat page
Priority	High
Performance	Med

Frequency	High
Channels to actors	Interactive
Open issues	N/A
Due Date	N/A
…any other management info.	N/A
Superordinates	Use Case #23: Chat Page

Use Case #25	Chat Room Public Profiles
Goal in Context	When chatting, user's display names should be anonymous unless they are friends/
Scope & Level	Secondary Task, subfunction of Chat page
Preconditions	1. User must be logged in 2. User must have at least one existing chatroom 3. User is viewing a chatroom
Success End Condition	Anonymous user names for each user are generated and displayed in the Chat profile header and chat side-bar.
Failed End Condition	Anonymous user names for each user are NOT displayed in the Chat profile header and chat side-bar.
Primary, Secondary Actors	Primary actor: User Secondary actor: System
Trigger	Users joins a chat session
Description	Action
	5. When generating a chatroom, anonymous usernames are generated when two users are paired together. 6. Username is displayed to user in chat profile header 7. User's own public username is displayed as well 8. Public usernames are displayed in the chat sidebar
Extensions	Branching Action

	N/A
Sub-variations	Branching Action
	N/A
Related Information	# 20 Explore Page # 14 One-on-one messaging # 23 Chat page
Priority	Medium
Performance	Med
Frequency	High
Channels to actors	Interactive
Open issues	N/A
Due Date	N/A
…any other management info.	N/A
Superordinates	Use Case #23: Chat Page Use Case #20: Explore Page

Functional Requirements
By: Sopheak Chim

Functional Requirement:

- **Sign in / Sign up**
  - A page for users to log-in to an existing account
  - A sign-up page for new users with survey/questionnaire to help match users
  - Personal information is needed but is not shared on the app for privacy and anonymity with other users
- **User Profile Pages**
  - Able to set pictures and change usernames
  - Have a "bio" or "about me"
  - ~~Change status~~
  - Able to set to a private or public profile so any users can find them and add them
- **Matching users with other users**
  - A new chat button uses the user's questionnaire results to match them with another anonymous user for a one-on-one chat
  - Users can create new interests for themselves to garner more variety when it comes to creating new chat
- **Messaging**
  - Users should be able to exchange messages in a one-on-one setting
  - Messaging features such as edit, delete, read receipts, and unsend are working functionally for both parties.
- **Chat history**
  - Users should be able to scroll through conversations as well as archive non-active and active conversations so they are able to view them when they would like to
  - Messages are backed up on the backend for if one user were to delete a chat the user that has not deleted the chat can still choose to view it
- **Report/block**
  - For users to be able to report other users that are not abiding by the rules of the web-app.
  - Blocking to make it so when blocked the other user cannot contact the current user.

Nonfunctional Requirements

By: Sopheak Chim, Angeline Dequit, Alex Kem

Quality:

- **Responsiveness**
  - The web app should be responsive, chats are in real-time and there should be little to no delay when switching from chat to chat.
- **User-to-User Quality assurance**
  - Reported accounts are looked at and flagged by the community and moderators are moderating their actions and making sure that people not abiding by the rules and policies are banned and unable to use the app in the future.
- **Moderation**
  - Flagged accounts should be reviewed by a moderation team that decides on the fate of each account.
- **Security**
  - ~~Messages that are exchanged between users are encrypted~~
  - Personal information is kept private with utmost security to ensure anonymity and protect the user's privacy.

Constraint:

By Angeline Dequit

- **Limited Finances:** Services for storage and database management may require funding
- **Daily Load:** Site should be able to handle XYZ chats sent per second
- **Specifications:**
  - Chatting and interactions should be available 24/7
  - Website interactions should have <1 second response time
- **Languages and Tools:**
  - The website will be developed using React, Redux, React Router, TailwindCSS, and Axios
  - The backend will be developed using Node.js, Express.js, Websocket (Socket.io), and Passport.js
  - The database management tools use will be MongoDB and Mongoose
  - For password security and management, Nodemailer and Bcrypt will be used.
  - ~~For notifications, messaging, and data updates, Firebase Cloud Messaging or Pusher Channels and Redis, will be used~~
  - For API management, JSON Web Tokens, GraphQL, Winston, and Swagger will be used.

Development Process

By Alex Kem

- Ensure that all documentation related to software design/planning is completed
- Perform research on technologies and libraries required for the software
  - Frontend, Backend, Database, Libraries, Deployment, etc
- Set up coding environments and database
- Prototype chat feature

- Testing chat feature
- Develop the web application
- Testing the web application
- Deploy the web application using a cloud provider (AWS, Google Cloud, Azure)
- Maintaining the web application
- Releasing updates to fix bugs and add improvements